REMARKS

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Claims 1-9 and 13 are objected to for various informalities.

Claims 1-7, 10-11, 13-14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds et al (U.S. Pat. # 5,395,249, hereinafter "Reynolds").

Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in view of Bross et al (U.S. Pant. # 5,225,777, hereinafter "Bross").

Claims 8, 15, and 18 are objected to as being dependent on a rejected claim base, but would be allowable if rewritten in independent form including all of the limitations of the base claims.

In view of the remarks below, the applicant respectfully traverses the rejections, and requests that the claims be allowed.

Claim Amendments

Claims 1, 8, 10 and 18 are amended. No new matter is added.

Claim Cancellations

Claims 9 and 17 are cancelled.

New Claims

New claims 20 - 25 are presented. Support is found at least in Fig. 5 and in the specification on page 13, lines 18-25. No new matter is added.

Claim Objections - Matters of Form

Claims 1-9 and 13 are objected to for matters of form. In particular, claim 1, is objected to for indefiniteness. Claim 1, lines 11-12 has been amended to recite, in part: "contact probemember." Applicant appreciates the Examiners observation and suggestion, and submits that claim 1 as amended overcomes the objection. Claims 2-9 depend from claim 1. However, claim 9 has been canceled, thereby mooting Examiner's objection to said claim.

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Claim 13 is amended to clearly recite dependency on claim 11, and not on cancelled claim 12.

Therefore, Applicant respectfully requests withdrawal of the objections to claims1-8 and 13, with claim 9 being canceled.

Rejection under 35 U.S.C. 102(b)

Claims 1-7, 10-11, 13-14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds et al (U.S. Pat. # 5,395,249, hereinafter "Reynolds").

Claims 1 and 10 are amended. Support is found at least in Fig. 2 and in the specification on pages 10, line 21 to page 11, line 8.

Applicant has amended claim 1 to recite, in part:

a holder member comprising a plurality of layers of support members and defining a plurality of holder holes passed across a thickness of said holder member;

an electroconductive coil spring received in each of said holder holes, each electroconductive spring having a natural length in an uncompressed state;

an electroconductive contact member provided on either axial end of said coil spring;

an engagement portion provided in each of said holder holes for preventing at least one of said contact members from coming off from said holder hole and allowing a certain length of said one contact member projecting out of the corresponding holder hole;

said electroconductive coil springs being installed in said holder holes such that each electroconductive coil spring extends by its natural length under a rest condition of said contact probemember.

Applicant has amended claim 10 to recite, in part:

an electroconductive contact probe having a first axial end and a second axial end, the probe further comprising an electroconductive coil spring and a first electroconductive contact member disposed on the first axial end, wherein the length of the probe is decreased when a load is applied to the coil spring and wherein each coil spring extends a natural length in an uncompressed state;

a holder member having a first surface and a second surface, the holder member comprising a plurality of layers of support members and a holder hole extending along a thickness of said holder member and an engagement portion;

Reynolds fails to teach a "holder member comprising a plurality of layers of support members". Reynolds discloses a connector body 54 which does not comprise a plurality of layers of support members, but which is a single material structure.

As discussed by the Applicant on, for example, page 2, lines 1-22, the spring force from the compression coil springs tends to warp the holder member containing the springs that may typically be found in the prior art. To alleviate this problem, Applicant has provided a contact probe having a holder member in which the coil springs are not compressed in a rest state. Reynolds is entirely silent regarding whether its spring buttons extend by their natural length when the probe is in its rest state. Applicant also submits that it is unreasonable to regard the button springs of Reynolds as being the same as a coil spring, as the two structures are clearly distinguishable. Therefore, Reynolds does not anticipate the structure recited in the limitations of claims 1 and 10. Claims 2-7 depend from claim1, claims 11, 13-14 and 19 depend from claim 10, and therefore are patentable for at least the same reasons. However, claim 19 has been canceled, further mooting Examiner's rejection of that claim. Thus, claims 1-7, 10-11, and 13-14 are patentable over the cited art.

Rejection under 35 U.S.C. 103(a)

Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in view of Bross.

Claim 9 has been canceled, thereby mooting Examiner's rejection of that claim.

As discussed above, Reynolds teaches that contacts on both sides of the spring partially protrude from the connector body, in contrast to Applicant's contact members, which do not. The Bross reference adds nothing further: Bross recites "flexible wire-like probe elements", i.e., that contain no compressible springs, nor springs in their natural length when no load is applied. In their natural state, Bross' probe elements all protrude from the holder. Furthermore, Bross discloses flexible wire-like probe elements 36 which are slightly bent on purpose so that each of them may deflect and "wipe" the opposing contact surface as it is pushed against the contact surface. The initial bending of each probe member is effected by staggering the different layers forming the probe assembly 20.

Referring now to FIG. 3, there is shown a schematic cross-sectional view of the probe assembly 20 similar to that shown in FIG. 2, but seen here at right-angles to that view. As seen here in FIG. 3, the holes 40, 42, and 44 (exaggerated in diameter) are staggered vertically and the probe elements 36 (only one being shown) substantially bowed or curved vertically in passing down through the various insulating layers 26, 30, and 34, and the layers of conductive circuitry 24, 28, and 32. Each probe element 36 is exactly positioned and captivated in this manner and its lower end or tip 38 canted slightly to the left of vertical. All of the tips 38 are thus uniformly aligned with great precision and thus properly mate with respective ones of the closely spaced surface pads 14 of the VLSI circuit 12. And, by virtue of this slight canting or uniform offsetting of the tips 38 of the probe elements 36, the unsupported lower portions of the probe elements 36 all uniformly deflect sideways (to the left) when the tips 38 respectively come into contact with the surface pads 14 and then the probe assembly 20 moves farther downward.

[Bross, col. 5, lines 7-27]

Therefore, the probe member does not possibly produce a force that pulls the different layers of the holder members away from each other, and therefore does not suggest the task of the present invention, let alone the structure. Applicant respectfully submits that the teachings of Reynolds and Bross cannot be combined to suggest the present invention. Thus, claim 17 is allowable over these references, either alone or in combination.

Allowable matter

Claims 8, 15, and 18 are objected to as being dependent on a rejected claim base, but would be allowable if rewritten in independent form including all of the limitations of the base claims.

Claim 8 depends from claim 1. Claims 15 and 18 depend from claim 10. Applicant has traversed rejections to claims 1 and 10, thereby mooting objections to claims 8, 15, and 18.

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CONCLUSION

The applicant respectfully requests the examiner to withdraw the rejections of the claims in this application, and to issue a notice of allowance for all pending claims. If the examiner has any questions, he is requested to call the attorney for Applicant at (949)-752-7040.

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Jorathan W. Hallman

August 13, 2007

Date of Signature

Respectfully submitted,

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